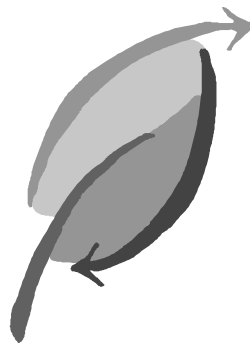

FOOD WASTES DATABASE DEVELOPMENT

EXECUTIVE SUMMARY



Waste Management
ASSISTANCE DIVISION



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EXECUTIVE SUMMARY

State of Iowa Food Wastes Database

BACKGROUND

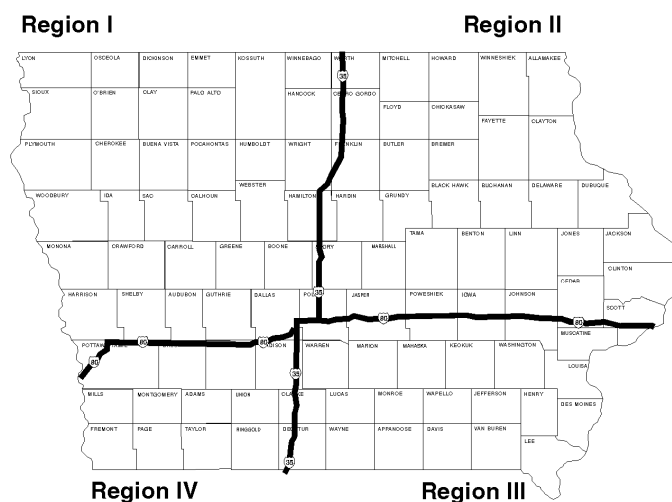
The March, 1998 ***State of Iowa Food Wastes Database*** was prepared for the Iowa Department of Natural Resources (DNR) Waste Management Assistance Division (WMAD) by Rolando A. Flores, Ph.D. and Carol Shanklin, Ph.D., Kansas State University.

The purpose of the project was to obtain descriptive information on the amounts, types, locations, and current management methods for residuals generated by Iowa's food and similar products sector. WMAD will use the information to develop programs that will assist the food processing industry to effectively manage food residuals. In Iowa, food processors generate 3.2 million tons of residuals each year.

DATABASE DEVELOPMENT

Rolando and Flores surveyed 444 Iowa industrial food processors with ten or more employees. 365 processors responded, resulting in an 82 percent response rate. Companies surveyed represented over 37 different SIC categories related to the food processing industry.

To obtain regional data, the state was divided into four regions using Interstate Highways I-35 and I-80 as boundaries. Regions are shown in the following map:



The majority (78 percent) of the food processors surveyed are located in Region 1 (44 percent) and Region 2 (34 percent).

MAJOR FINDINGS

Waste Generation and Composition

- Regions 2 and 3 generated the greatest quantity of residuals.
- Organic waste comprised the majority (93 percent) of all the residuals generated in all regions. Regional data on residuals generated follow:
 - Meat scraps, bones and miscellaneous meat processing wastes, pet food waste, and cardboard boxes represented 85 percent of the residuals generated in Region 1.
 - Mill scraps, meat scraps, corn silage, general garbage, and plastic film represented 59 percent of the residuals generated in Region 2.
 - Fats and oils, rendering waste, organic minerals, and wastewater represented 97 percent of residuals generated in Region 3.
 - Packaging materials (cardboard boxes, paperboard/cartons, and paper and other packaging), mixed food waste, and dough wastes represented 86 percent of residuals generated in Region 4.

Costs Incurred

- Using the average cost per ton to landfill solid waste for each region, the following estimates for the total cost incurred by food processors were obtained:
 - Region 1: \$ 2,724/week
 - Region 2: \$111,289/week
 - Region 3: \$ 3,925/week
 - Region 4: \$ 10,320/week
- Landfill costs accounted for 42 percent of the total cost reported, followed by sewage off-site (21 percent), rendering (10 percent), and land application (9 percent).

Waste Management Practices

- Excluding “other,” land application accounted for 14 percent of the waste stream, followed by rendering (11 percent), landfill (6 percent), sewage on-

site (5 percent), and animal feed production off-site (4 percent). “Other” waste management practices accounted for 55 percent of the waste stream.

- Major barriers to implementing recycling and waste reduction programs cited were: lack of markets (49 percent), cost/benefit ratio (30 percent), lack of capital (9 percent), government regulations (9 percent), and company policy (3 percent). Other barriers identified by the respondents included: insufficient space, inconvenience, minimal quantity generated, lack of knowledge, transportation, technology, low priority, and economics. None of the respondents indicated labor costs were a barrier.

Program Implications

- Sixty food processors requested assistance/information from one or more of the following Iowa waste assistance/management programs: Waste Reduction Assistance Program, Iowa Waste Exchange, Iowa Waste Reduction Center, Recycle Iowa Office.
- Composting and bioconversion such as ethanol and animal feed are waste management alternatives that continue to present potential for greater development in Iowa.
- The initial focus in searching for alternatives for waste management disposal methods should be on the residuals under the meat and seafood and food grain/bakery/pasta categories.

For additional information about the ***State of Iowa Food Wastes Database*** study contact:

Jeff Geerts or Amber Mayo
Waste Management Assistance Division
Iowa Department of Natural Resources
502 E. 9th St.
Des Moines, IA 50319-0034
515/281-4367
jeff.geerts@dnr.state.ia.us or amber.mayo@dnr.state.ia.us